

**From:** Bill Sinclair  
**To:** Leah Ann Lamb  
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**Subject:** Fwd: Facility information - Sheffield

>>> "Allen, Rich" <R\_Allen@iema.state.il.us> 08/20/03 03:22PM >>>

Bill:

I have tried to respond based on the pattern of the other responses Kathy sent me. If you have any questions, there is lots more information available.

Rich Allen

Sheffield LLRW Site in Illinois

1. Age of site: The LLRW disposal facility operated from 1966 until 1978.
2. Construction and structures: During that time, about 3.2 million cubic feet of LLRW were buried in 21 shallow (varying from 8 to 25 feet deep) earthen trenches. It is about a 20 acre site, surrounded by a 170 acre buffer zone.
3. Rainfall and groundwater levels: Precipitation averages 35 inches per year, resulting in about 2 inches of recharge per year. The pebbly sand unit that carries most of the groundwater averages about 20 feet below the surface, but varies seasonally. Before 1988, groundwater probably did occasionally reach a level above the bottoms of the deepest trenches.
4. Soil composition: From the surface downward: Non-native fill, loess, silt/sand mixtures, shale. The contaminated groundwater is carried primarily by a pebbly sand layer which underlies about 2/3 of the site.
5. How was the "leak" controlled/fixed?: In 1988, US Ecology was required to install a new, low-permeability clay cap over all the waste trenches. This new cap minimized infiltration from the surface immediately above the trenches.
6. Damage to environment: In 1976, tritium was discovered in shallow groundwater beneath the site. Since then, tritium movement has been traced to the east where it discharges into a small lake (Trout Lake) located about 1000 feet from the site. The groundwater carrying the tritium away from the LLRW site and Trout Lake are both located within the buffer zone that surrounds the site. During 2002, concentrations in the lake were about 2 nCi/L.
7. Waste types: Containers were typical of the era: Steel drums, steel boxes, wooden boxes and concrete boxes. An estimated Curie inventory follows:

H-3	5990
C-14	450
I-129	0.01
Sr-90	3690
Cs-137	15500
Co-60	20000
Pu-238	7.5
Pu-239,40,41	4870
Am-241	137.5

